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(from Email)

KT

AMENDMENTS TO THE CLAIMS

- 1 1. (Currently Amended) A method of managing electronic mail, the method comprising the
- 2 computer-implemented steps of:
- 3 automatically generating certain criteria based on contents of a plurality of electronic
- 4 mail messages received over a network;
- 5 wherein the step of automatically generating certain criteria includes:
- 6 automatically determining what particular content to use to identify electronic
- 7 mail messages as a first type of electronic mail message by performing
- 8 steps that include determining that a threshold number of said plurality of
- 9 electronic mail messages have a particular content, and
- 10 in response to determining that a threshold number of said plurality of electronic
- 11 mail messages have said particular content, generating one or more criteria
- 12 that identifies electronic mail messages that have said particular content as
- 13 the first type of electronic mail;
- 14
- 15 receiving an electronic mail message over said network;
- 16 determining whether said electronic mail message satisfies said one or more criteria;
- 17 if said electronic mail message satisfies said one or more criteria, then processing said
- 18 electronic mail message as said first type of electronic mail;
- 19 if said electronic mail message does not satisfy said one or more criteria, then processing
- 20 said electronic mail message as a second type of electronic mail;
- 21 wherein said first type of electronic mail is processed differently than said second type of
- 22 electronic mail; and

23 wherein at least one electronic mail message of said plurality of electronic mail messages
24 has not been classified, before determining that a threshold number of said
25 plurality of electronic mail messages have a particular content, as belonging to
26 said first type.

1 2. (Previously Presented) The method of Claim 1 wherein:
2 the method further comprises the step of generating a message signature for said
3 electronic mail message based on contents of said electronic mail message; and
4 the step of determining whether said electronic mail message satisfies one or more
5 criteria is based on said message signature.

1 3. (Previously Presented) The method of Claim 1, wherein determining that a threshold
2 number of said plurality of electronic mail messages have a particular content includes
3 determining that at least a portion of each of said plurality of electronic mail messages
4 have said particular content.

1 4. (Previously Presented) The method of Claim 1, wherein the step of generating certain
2 criteria based on contents of a plurality of electronic mail messages received over said
3 network includes tracking how many message signature elements of said plurality of
4 electronic mail messages match.

1 5. (Previously Presented) The method of Claim 1 wherein the step of generating certain
2 criteria based on contents of a plurality of electronic mail messages received over said
3 network includes the steps of:
4 generating message signatures for each electronic mail message of said plurality of
5 electronic mail messages, wherein each message signature includes one or more
6 message signature elements; and
7 counting how many of said one or more message signature elements match message
8 signature elements from other message signatures.

1 6. (Previously Presented) The method of Claim 5 wherein the step of determining whether
2 said electronic mail message satisfies said one or more criteria includes determining
3 whether a message signature generated for said electronic mail message includes at least
4 one message signature element that matches a threshold number of message signature
5 elements of previously generated message signatures.

1 7. (Previously Presented) The method of Claim 6 wherein the step of determining whether a
2 message signature generated for said electronic mail message includes at least one
3 message signature element that matches a threshold number of message signature
4 elements further includes determining whether a message signature generated for said
5 electronic mail message includes at least one message signature element that matches a
6 threshold number of message signature elements of previously generated message
7 signatures that are associated with a period of time.

1 8. (Original) The method of Claim 1 wherein the step of processing said electronic mail
2 message as a first type of electronic mail includes adding a bulk electronic mail flag to
3 said electronic mail message.

1 9. (Original) The method of Claim 8, further including the steps of:
2 after processing said electronic mail message as a first type of electronic mail,
3 transmitting said electronic mail message to an electronic mail server;
4 said electronic mail server receiving said electronic mail message;
5 said electronic mail server determining whether said electronic mail message contains
6 said bulk electronic mail flag; and
7 if said electronic mail message contains said bulk electronic mail flag, then processing
8 said electronic mail message without further verifying whether said electronic
9 mail message is bulk electronic mail.

1 10. (Currently Amended) A method of managing electronic mail, the method comprising the
2 steps of:
3 a central server receiving message signatures from a set of electronic mail servers;
4 automatically determining what particular content to use to identify electronic mail
5 messages as bulk electronic mail by performing steps that include determining
6 that a threshold number of message signatures received by said central server
7 from said set of electronic mail servers match;
8 in response to determining that a threshold number of message signatures received by
9 said central server from said set of electronic mail servers match, generating a set

10 of one or more criteria that identifies electronic mail messages that have said
11 particular content as bulk electronic mail;
12
13 an electronic mail server determining whether a particular message signature for an
14 electronic mail message satisfies said set of one or more criteria;
15 if said particular message signature satisfies said set of one or more criteria, then said
16 electronic mail server processing said electronic mail message as bulk electronic
17 mail;
18 wherein said threshold number of message signatures are generated from a plurality
19 electronic mail messages; and
20 wherein said plurality of electronic mail messages include at least one message that has
21 not been identified, as bulk electronic mail, before determining that a threshold
22 number of message signatures received by said central server from said set of
23 electronic mail servers match.

1 11. (Canceled)

1 12. (Currently Amended) The method of Claim 10, wherein the step of a central server
2 receiving from an electronic mail server message signatures includes receiving a set of
3 one or more values generated by a one-way hash function.

1 13. (Original) The method of Claim 12, the method further including the step of transmitting
2 one or more messages to said electronic mail server specifying changes to one or more
3 routines invoked by said electronic mail server to generate message signatures.

1 14. (Original) The method of Claim 13, wherein the step of transmitting one or more
2 messages includes transmitting platform-independent byte code.

1 15. (Currently Amended) A method of managing electronic mail transmitted over a network,
2 the method comprising the steps of:
3 a central server receiving from a set of electronic mail servers certain message signatures
4 generated from a plurality electronic mail messages received by said set of
5 electronic mail servers, wherein each message signature of said certain message
6 signatures includes one or more message signature elements;
7 said central server generating a count of how many times said one or more message
8 signature elements are matched by message signature elements from message
9 signatures generated for other electronic mail messages of said plurality of
10 electronic mail messages;
11 automatically determining what particular content to use to identify electronic mail
12 messages as a first type of electronic mail message by performing steps that
13 include determining that a threshold number of said plurality of electronic mail
14 messages have a particular content based on said count; and
15 in response to determining that a threshold number of said plurality of electronic mail
16 messages have said particular content, generating one or more criteria that
17 identifies electronic mail messages that have said particular content as the first
18 type of electronic mail;
19 wherein at least one message of said plurality of electronic mail messages has not been
20 classified, before determining that a threshold number of said plurality of

22 electronic mail messages have a particular content, as belonging to said first type;
23 and
24 said central server transmitting a message reflecting said one or more criteria.

1 16. (Previously Presented) The method of Claim 15, wherein:
2 the step of a central server receiving includes receiving a particular recipient signature
3 associated with a particular message signature; and
4 the step of generating counts includes generating counts of how many times said one or
5 more message signature elements match message signature elements that are:
6 generated for other electronic mail messages, and
7 associated with a recipient signature that differs from said particular recipient
8 signature.

1 17. (Canceled)
1 18. (Currently Amended) The method of Claim 16, wherein the step of transmitting messages
2 includes transmitting message signature elements associated with counts greater than a
3 threshold.

1 19 - 25. (Canceled)

1 26. (Currently Amended) A computer-readable medium carrying one or more sequences of
2 one or more instructions for managing electronic mail, wherein the execution of the one

3 or more sequences of the one or more instructions causes the one or more processors to
4 perform the steps of:

5 automatically generating certain criteria based on contents of a plurality of electronic
6 mail messages received over a network;

7 wherein the step of automatically generating certain criteria includes:

8 automatically determining what particular content to use to identify electronic
9 mail messages as a first type of electronic mail message by performing
10 steps that include determining that a threshold number of said plurality of
11 electronic mail messages have a particular content, and
12 in response to determining that a threshold number of said plurality of electronic
13 mail messages have said particular content, generating one or more criteria
14 that identifies electronic mail messages that have said particular content as
15 the first type of electronic mail;

16 receiving an electronic mail message over said network;

18 determining whether said electronic mail message satisfies said one or more criteria;

19 if said electronic mail message satisfies said one or more criteria, then processing said
20 electronic mail message as said first type of electronic mail;

21 if said electronic mail message does not satisfy said one or more criteria, then processing
22 said electronic mail message as a second type of electronic mail;

23 wherein said first type of electronic mail is processed differently than said second type of
24 electronic mail; and

25 wherein at least one electronic mail message of said plurality of electronic mail messages
26 has not been classified, before determining that a threshold number of said

27 plurality of electronic mail messages have a particular content, as belonging to
28 said first type.

1 27. (Previously Presented) The computer-readable medium of Claim 26 wherein:
2 the computer-readable medium further comprises sequences of instructions for
3 performing the step of generating a message signature for said electronic mail
4 message based on contents of said electronic mail message; and
5 the step of determining whether said electronic mail message satisfies said one or more is
6 based on said message signature.

1 28. (Previously Presented) The computer-readable medium of Claim 26 wherein determining
2 that a threshold number of said plurality of electronic mail messages have a particular
3 content includes determining that at least a portion of each of said plurality of electronic
4 mail messages have said particular content.

1 29. (Previously Presented) A computer-readable medium carrying one or more sequences of
2 one or more instructions for managing electronic mail, wherein the execution of the one
3 or more sequences of the one or more instructions causes the one or more processors to
4 perform the steps of:
5 a central server receiving message signatures from a set of electronic mail servers;
6 automatically determining what particular content to use to identify electronic mail
7 messages as bulk electronic mail by performing steps that include determining
8 that a threshold number of message signatures received by said central server
9 from said set of electronic mail servers match;

10 in response to determining that a threshold number of message signatures received by
11 said central server from said set of electronic mail servers match, generating a set
12 of one or more criteria that identifies electronic mail messages that have said
13 particular content as bulk electronic mail;
14
15 an electronic mail server determining whether a particular message signature for an
16 electronic mail message satisfies said set of one or more criteria;
17 if said particular message signature satisfies said set of one or more criteria, then said
18 electronic mail server processing said electronic mail message as bulk electronic
19 mail;
20 wherein said threshold number of message signatures are generated from a plurality
21 electronic mail messages; and
22 wherein said plurality of electronic mail messages include at least one message that has
23 not been identified, as bulk electronic mail, before determining that a threshold
24 number of message signatures received by said central server from said set of
25 electronic mail servers match.

1 30. (Canceled)

1 31. (Currently Amended) A computer-readable medium carrying one or more sequences of
2 one or more instructions for managing electronic mail, wherein the execution of the one
3 or more sequences of the one or more instructions causes the one or more processors to
4 perform the steps of:
5 a central server receiving from a set of electronic mail servers certain message signatures
6 generated from a plurality electronic mail messages received by said set of

7 electronic mail servers, wherein each message signature of said certain message
8 signatures includes one or more message signature elements;
9 said central server generating a count of how many times said one or more message
10 signature elements are matched by message signature elements from message
11 signatures generated for other electronic mail messages of said plurality of
12 electronic mail messages;
13 automatically determining what particular content to use to identify electronic mail
14 messages as a first type of electronic mail message by performing steps that
15 include determining that a threshold number of said plurality of electronic mail
16 messages have a particular content based on said count; and
17 in response to determining that a threshold number of said plurality of electronic mail
18 messages have said particular content, generating one or more criteria that
19 identifies electronic mail messages that have said particular content as the first
20 type of electronic mail;
21 wherein at least one message of said plurality of electronic mail messages has not been
22 classified, before determining that a threshold number of said plurality of
23 electronic mail messages have a particular content, as belonging to said first typ
24 and
25 said central server transmitting a message reflecting said one or more criteria.

1 38. (Previously Presented) The computer-readable medium of Claim 26 wherein the step of
2 generating certain criteria based on contents of a plurality of electronic mail messages
3 received over said network includes tracking how many message signature elements of
4 said plurality of electronic mail messages match.

1 39. (Previously Presented) The computer-readable medium of Claim 26 wherein the step of
2 generating certain criteria based on contents of a plurality of electronic mail messages
3 received over said network includes the steps of:
4 generating message signatures for each electronic mail message of said plurality of
5 electronic mail messages, wherein each message signature includes one or more
6 message signature elements; and
7 counting how many of said one or more message signature elements match message
8 signature elements from other message signatures.

1 40. (Previously Presented) The computer-readable medium of Claim 39 wherein the step of
2 determining whether said electronic mail message satisfies said one or more criteria
3 includes determining whether a message signature generated for said electronic mail
4 message includes at least one message signature element that matches a threshold number
5 of message signature elements of previously generated message signatures.

1 41. (Previously Presented) The computer-readable medium of Claim 40 wherein the step of
2 determining whether a message signature generated for said electronic mail message
3 includes at least one message signature element that matches a threshold number of

4 message signature elements further includes determining whether a message signature
5 generated for said electronic mail message includes at least one message signature
6 element that matches a threshold number of message signature elements of previously
7 generated message signatures that are associated with a period of time.

1 42. (Previously Presented) The computer-readable medium of Claim 26 wherein the step of
2 processing said electronic mail message as a first type of electronic mail includes adding
3 a bulk electronic mail flag to said electronic mail message.

1 43. (Previously Presented) The computer-readable medium of Claim 42, the steps further
2 including
3 after processing said electronic mail message as a first type of electronic mail,
4 transmitting said electronic mail message to an electronic mail server;
5 said electronic mail server receiving said electronic mail message;
6 said electronic mail server determining whether said electronic mail message contains
7 said bulk electronic mail flag; and
8 if said electronic mail message contains said bulk electronic mail flag, then processing
9 said electronic mail message without further verifying whether said electronic
10 mail message is bulk electronic mail.

1 44. (Previously Presented) The computer-readable medium of Claim 29, wherein the step of
2 a central server receiving from an electronic mail server message signatures includes
3 receiving a set of one or more values generated by a one-way hash function.

- 1 45. (Previously Presented) The computer-readable medium of Claim 44, the steps further
- 2 including the step of transmitting one or more messages to said electronic mail server
- 3 specifying changes to one or more routines invoked by said electronic mail server to
- 4 generate message signatures.
- 1 46. (Previously Presented) The computer-readable medium of Claim 45, wherein the step of
- 2 transmitting one or more messages includes transmitting platform-independent byte code.
- 1 47. (Previously Presented) The computer-readable medium of Claim 31, wherein:
 - 2 the step of a central server receiving includes receiving a particular recipient signature
 - 3 associated with a particular message signature; and
 - 4 the step of generating counts includes generating counts of how many times said one or
 - 5 more message signature elements match message signature elements that are:
 - 6 generated for other electronic mail messages, and
 - 7 associated with a recipient signature that differs from said particular recipient
 - 8 signature.
- 1 48. (Canceled)
- 1 49. (Currently Amended) The computer-readable medium of Claim 47, wherein the step of
- 2 transmitting messages includes transmitting message signature elements associated with
- 3 counts greater than a threshold.

1 50. (Currently Amended) A method of managing electronic mail, the method comprising the
2 computer-implemented steps of:
3 automatically generating certain criteria based on contents of a plurality of electronic
4 mail messages received over a network;
5 wherein the step of automatically generating certain criteria includes, in response to
6 determining that a threshold number of said plurality of electronic mail messages
7 have a particular content, generating one or more criteria that classifies electronic
8 mail messages that have said particular content as a first type of electronic mail;
9 receiving an electronic mail message over said network;
10 determining whether said electronic mail message satisfies said one or more criteria;
11 if said electronic mail message satisfies said one or more criteria, then processing said
12 electronic mail message as said first type of electronic mail;
13 if said electronic mail message does not satisfy said one or more criteria, then processing
14 said electronic mail message as a second type of electronic mail;
15 wherein said first type of electronic mail is processed differently than said second type of
16 electronic mail;
17 wherein the step of determining that a threshold number of said plurality of electronic
18 mail messages have a particular content includes the steps of:
19 generating message signatures for each electronic mail message of said plurality
20 of electronic mail messages, wherein each message signature includes one
21 or more signature elements, and

22 counting how many of said one or more signature elements match signature
23 elements from other message signatures; and
24 wherein at least one electronic mail message of said plurality of electronic mail
25 messages has not been classified, before determining that a threshold number of
26 said plurality of electronic mail messages have a particular content, as belonging
27 to said first type.

28

1 51. (Previously Presented) The method of Claim 50 wherein the step of determining whether
2 said electronic mail message satisfies said one or more criteria includes determining
3 whether a message signature generated for said electronic mail message includes at least
4 one signature element that matches a threshold number of signature elements of
5 previously generated message signatures.

1 52. (Previously Presented) The method of Claim 51 wherein the step of determining whether
2 a message signature generated for said electronic mail message includes at least one
3 signature element that matches a threshold number of signature elements further includes
4 determining whether a message signature generated for said electronic mail message
5 includes at least one signature element that matches a threshold number of signature
6 elements of previously generated message signatures that are associated with a period of
7 time.

1 53. (Currently Amended) A computer-readable medium carrying one or more sequences of
2 one or more instructions for managing electronic mail, wherein the execution of the one

3 or more sequences of the one or more instructions causes the one or more processors to
4 perform the steps of:
5 automatically generating certain criteria based on contents of a plurality of electronic
6 mail messages received over a network;
7 wherein the step of automatically generating certain criteria includes, in response to
8 determining that a threshold number of said plurality of electronic mail messages
9 have a particular content, generating one or more criteria that classifies electronic
10 mail messages that have said particular content as a first type of electronic mail;
11 receiving an electronic mail message over said network;
12 determining whether said electronic mail message satisfies said one or more criteria;
13 if said electronic mail message satisfies said one or more criteria, then processing said
14 electronic mail message as said first type of electronic mail;
15 if said electronic mail message does not satisfy said one or more criteria, then processing
16 said electronic mail message as a second type of electronic mail;
17 wherein said first type of electronic mail is processed differently than said second type of
18 electronic mail;
19 wherein the step of determining that a threshold number of said plurality of electronic
20 mail messages have a particular content includes the steps of:
21 generating message signatures for each electronic mail message of said plurality
22 of electronic mail messages, wherein each message signature includes one
23 or more signature elements, and
24 counting how many of said one or more signature elements match signature
25 elements from other message signatures; and

26 wherein at least one electronic mail message of said plurality of electronic mail
27 messages has not been classified, before determining that a threshold number of
28 said plurality of electronic mail messages have a particular content, as belonging
29 to said first type.

1 54. (Previously Presented) The computer-readable medium of Claim 53 wherein the step of
2 determining whether said electronic mail message satisfies said one or more criteria
3 includes determining whether a message signature generated for said electronic mail
4 message includes at least one signature element that matches a threshold number of
5 signature elements of previously generated message signatures.

1 55. (Previously Presented) The computer-readable medium of Claim 54 wherein the step of
2 determining whether a message signature generated for said electronic mail message
3 includes at least one signature element that matches a threshold number of signature
4 elements further includes determining whether a message signature generated for said
5 electronic mail message includes at least one signature element that matches a threshold
6 number of signature elements of previously generated message signatures that are
7 associated with a period of time.